FLEXIDOME IP outdoor 5000

www.boschsecurity.com

BOSCH
Invented for life

HD Onvif

- Outdoor IP dome camera with varifocal lens
- 1080p and 5MP resolutions
- Fully configurable quad streaming
- Regions of interest and E-PTZ
- IR version with 15 m (50 ft) viewing distance

The HD 1080p and 5MP outdoor dome cameras from Bosch are professional surveillance cameras that provide high quality HD and MP images for demanding security and surveillance network requirements. These robust domes are true day/night cameras offering excellent performance day or night.
The cameras are available in 1080p and 5M versions and there is a 1080p version with a built-in active infrared illuminator that provides high performance in extreme low-light environments.

System overview

iDNR reduces bandwidth and storage requirements
The camera uses intelligent Dynamic Noise Reduction (iDNR) which actively analyzes the contents of a scene and reduces noise artifacts accordingly.
The low-noise image and the efficient H.264 compression technology provide clear images while reducing bandwidth and storage by up to 30% compared to other H.264 cameras. This results in reduced-bandwidth streams that still retain a high image quality and smooth motion. The camera provides the most usable image possible by cleverly optimizing the detail-to-bandwidth ratio.

Area-based encoding is another feature which reduces bandwidth. Compression parameters for up to eight user-definable regions can be set. This allows uninteresting regions to be highly compressed, leaving more bandwidth for important parts of the scene.
The average typical optimized bandwidth in kbits/s for various image rates is shown in the table:

IPS	5MP	1080p	720p	480p
30	-	1600	1200	600
15	-	1274	955	478
12	1753	1169	877	438
5	1136	757	568	284
2	489	326	245	122

Vandal resistant outdoor dome with varifocal lens
Ideal for outdoor use, the IK10-rated design is suitable for installations where a vandal resistance is important. The camera is protected against water and dust to IP66 (NEMA Type 4X) standards. The 3 to 10 mm varifocal lens allows you to choose the coverage area to best suit your application. Mounting options are numerous, including surface, wall, and suspended-ceiling mounting.

1080p or 5MP resolutions with multiple streams
The camera is available in a 1080p resolution version at 30 images per second (ips) or a 5MP resolution version at 12 ips. The innovative multi-streaming feature delivers various H.264 streams together with an M-JPEG stream. These streams facilitate bandwidth-efficient viewing and recording as well as integration with third-party video management systems.

Regions of interest and E-PTZ
Regions of Interest (ROI) can be user defined. The remote E-PTZ (Electronic Pan, Tilt and Zoom) controls allow you to select specific areas of the parent image. These regions produce separate streams for remote viewing and recording. These streams, together with the main stream, allow the operator to separately monitor the most interesting part of a scene while still retaining situational awareness.

Two-way audio and audio alarm
Two-way audio allows the operator to communicate with visitors or intruders via an external audio line input and output. Audio detection can be used to generate an alarm if needed.

Tamper and motion detection
A wide range of configuration options is available for alarms signaling camera tampering. A built-in algorithm for detecting movement in the video can also be used for alarm signaling.

Edge recording
The internal MicroSD card slot supports up to 2 TB of storage capacity. A microSD card can be used for local alarm recording. Pre-alarm recording in RAM reduces recording bandwidth on the network, or — if microSD card recording is used — extends the effective life of the storage medium.

Cloud-based facilities
The camera supports time-based or alarm-based JPEG posting to four different accounts. These accounts can address FTP servers or cloud-based storage facilities (for example, Dropbox). Video clips or JPEG images can also be exported to these accounts.
Alarms can be set up to trigger an e-mail or SMS notification so you are always aware of abnormal events.

Easy installation
Power for the camera can be supplied via a Power-over-Ethernet (IEEE 802.3af) compliant network cable connection. With this configuration, only a single cable connection is required to view, power, and control the camera. Using PoE makes installation easier and more cost-effective, as cameras do not require a local power source.
The camera can also be supplied with power from +12 VDC power supplies. To increase system reliability, the camera can be simultaneously connected to both PoE and +12 VDC supplies. Additionally, uninterruptible power supplies (UPS) can be used, which will allow continuous operation, even during a power failure. For trouble free network cabling, the cameras support Auto-MDIX.

True day/night switching
The camera incorporates mechanical filter technology for vivid daytime color and exceptional night-time imaging while maintaining sharp focus under all lighting conditions.

Access Security
Password protection with three levels and 802.1x authentication is supported. To secure Web browser access, use HTTPS with a SSL certificate stored in the camera. The video and audio communication channels can be independently AES encrypted with 128-bit keys by installing the optional encryption site license.

Complete viewing software
There are many ways to access the camera's video features: using a web browser, with the supplied Bosch Video Client, or with the video security mobile App.
The Bosch Video Client PC surveillance software offers a user-friendly interface to support easy installation and configuration, and is supplied completely free-of-charge. It provides easy live viewing of multiple cameras, playback, forensic search and export.

Video security App
The Bosch video security mobile App has been developed to enable **Anywhere** access to HD surveillance images allowing you to view live images from any location. The App is designed to give you complete control of all your cameras, from panning and tilting to zoom and focus functions. It's like taking your control room with you.
This App, together with the separately available Bosch transcoder, will allow you to fully utilize our dynamic transcoding features so you can play back images even over low-bandwidth connections.

System integration
Bosch IP standard definition and high definition cameras, encoders and analytics work seamlessly with a wide range of security software and recording solutions from Bosch and other industry providers. Through ONVIF conformance, the open availability of Bosch video software development kits and a team dedicated to special integration and support projects, it is easy to manage Bosch video products within your system design (for details on the Bosch Integration Partner Program, visit ipp.boschsecurity.com).

Certifications and approvals

Standards	IEC 62471 (IR version)
	EN 60950-1
	UL 60950-1
	UL 60950-22

	CAN/CSA-C22.2 NO. 60950-1
	CAN/CSA-C22.2 NO. 60950-22
	EN 50130-4
	EN 50130-5
	FCC Part15 Subpart B, Class B
	EMC directive 2004/108/EC
	EN 55022/24 class B
	VCCI J55022 V2 / V3
	AS/NZS CISPR 22 (equal to CISPR 22)
	ICES-003 class B
	EN 50121-4
	EN 50132-5-2; IEC 62676-2-3
Product certifications	CE, FCC, UL, cUL, C-tick, CB, VCCI
Ingress protection	IP66
Impact protection	IK10

Region	Certification
Europe	CE
USA	UL

Technical specifications

Power

Input voltage	+12 VDC or Power-over-Ethernet (48 VDC nominal)
Power consumption	4.5 W max. 6.0 W max. (IR version)
PoE	IEEE 802.3af (802.3at Type 1) Power level: Class 1 (Class 2 IR version)

Video

Sensor type	1/2.7-inch CMOS (NDN-50022, NDI-50022) 1/3-inch CMOS (NDN-50051)
Sensor pixels	1920 x 1080 (NDN-50022, NDI-50022) 2592 x 1944 (NDN-50051)
1080p Sensitivity (3200 K, reflectivity 89%, 30IRE, F1.3)	0.24 lx (color) 0.05 lx (mono) 0.0 lx (IR)
5MP Sensitivity (3200 K, reflectivity 89%, 30IRE, F1.3)	0.5 lx (color) 0.075 lx (mono)
Dynamic range	76 dB (NDN-50022, NDI-50022) 65 dB (NDN-50051)
True Day/Night	Auto, Color, Monochrome
Shutter speed	Automatic Electronic Shutter (AES) Fixed (1/30 [1/25] to 1/15000 for NDN-50022, NDI-50022) Fixed (1/12 to 1/15000 for NDN-50051)
Video resolution	1080p, 720p, 432p, 288p, 144p (NDN-50022, NDI-50022) 5 Megapixels, 480p (NDN-50051)
Aspect ratio	16:9 (NDN-50022, NDI-50022) 4:3 (NDN-50051)
Video compression	H.264 MP (Main Profile); M-JPEG
Max. frame rate	30 ips (NDN-50022, NDI-50022) 12 ips (NDN-50051) (M-JPEG frame rate can vary depending on system loading)
Video Settings	Video watermarking, Alarm mode stamping, Image mirror, Image flip, Contrast, Saturation, Brightness, White balance, Sharpness level, Contrast enhancement, Backlight Compensation, Privacy Mask, Motion detection, Tamper alarm, Upright mode, Pixel counter

Night vision (IR version only)

Distance	15 m (50 ft)
LED	15 LED high efficiency array, 850 nm

Lens

Lens type	Varifocal 3 to 10 mm, DC Iris F1.3 - 360
Lens mount	Board mounted
Horizontal field of view	36° - 117° (NDN-50022, NDI-50022) 27.8° - 86.6° (NDN-50051)
Vertical field of view	20° - 61° (NDN-50022, NDI-50022) 20.8° - 63.4° (NDN-50051)

Connection

Analog video out (for installation only)	BNC connector (1 Vpp CVBS, NTSC)
Alarm input	Short or DC 5V activation
Relay out	Input rating Maximum 1 A 24 VAC/VDC

Audio

Audio input	Line in jack connector
Audio output	Line out jack connector
Audio communication	Two-way, full duplex
Audio compression	AAC, G.711, L16 (live and recording)

Local Storage

Internal RAM	10 s pre-alarm recording
Memory card slot	Supports up to 32 GB microSDHC / 2 TB microSDXC card. (An SD card of Class 6 or higher is recommended for HD recording)
Recording	Continuous recording, ring recording. alarm/events/schedule recording

Software Control

Unit configuration	Via web browser or PC surveillance software

Network

Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, Telnet, ARP, DHCP, SNTP, SNMP (V1, MIB-II), 802.1x, DNS, DNSv6, DDNS, SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox, CHAP, Digest Authentication.
Encryption	TLS 1.0, SSL, DES, 3DES, AES (optional)
Ethernet	10/100 Base-T, auto-sensing, half/full duplex
Ethernet connector	RJ45
Connectivity	ONVIF Profile S, Auto-MDIX

Mechanical

3-axis adjustment (pan/tilt/ rotation)	350º / 130º / 350º
Dimensions	Diameter: 145 mm (5.72 in) Height: 118 mm (4.66 in)
Weight	1050 g (2.32 lb) approx.
Color	RAL 9004, RAL 9010

Environmental

Operating temperature	-30 ºC to +50 ºC (-22 ºF to +122 ºF)
Storage temperature	-30 ºC to +70 ºC (-22 ºF to +158 ºF)
Humidity	20% to 90% relative humidity (non condensing)

Ordering information

FLEXIDOME IP outdoor 5000 HD
Vandal-resistant IP dome camera for outdoor HD surveillance. Varifocal 3 to 10 mm f1.3 lens; IP66; IK10; iDNR; day/night; H.264 quad-streaming; cloud services; ROI; motion/tamper/audio detection; 1080p
Order number **NDN-50022-V3**

FLEXIDOME IP outdoor 5000 MP
Vandal-resistant IP dome camera for outdoor MP surveillance. Varifocal 3 to 10 mm f1.3 lens; IP66; IK10; iDNR; day/night; H.264 quad-streaming; cloud services; ROI; motion/tamper/audio detection; microphone; 5MP
Order number **NDN-50051-V3**

FLEXIDOME IP outdoor 5000 HD
Vandal-resistant IP dome camera for outdoor HD surveillance. Varifocal 3 to 10 mm f1.3 lens; IP66; IK10; iDNR; day/night; H.264 quad-streaming; cloud services; ROI; motion/tamper/audio detection; 1080p; Infrared
Order number **NDI-50022-V3**

Accessories

VDA-WMT-AODOME Outdoor Wall Mount
Outdoor wall mount
Order number **VDA-WMT-AODOME**

NDA-WMT-DOME Dome Wall Mount
Sturdy wall mount bracket for microdome/minidome cameras.
Order number **NDA-WMT-DOME**

VDA-PMT-AODOME Outdoor Pipe Mount
Outdoor pipe mount
Order number **VDA-PMT-AODOME**

LTC 9213/01 Pole Mount Adapter
Flexible pole mount adapter for camera mounts. Max. 9 kg (20 lb); 3 to 15 inch diameter pole; stainless steel straps
Order number **LTC 9213/01**

NDA-ADT4S-MINDOME Dome 4S Mount
Minidome surface mount adapter
Order number **NDA-ADT4S-MINDOME**

VDA-PLEN-DOME In-ceiling Housing for Plenums Kit
FLEXIDOME in-ceiling housing installation kit (plenum-rated) for various FLEXIDOME cameras
Order number **VDA-PLEN-DOME**

NDA-FMT200-DOME Flush-mount Bracket
In-ceiling flush mounting kit.
Order number **NDA-FMT200-DOME**

Software Options

BVIP AES 128 Bit Encryption
Single installation licence for BVIP AES 128-bit encryption site. Enables encrypted communication between BVIP devices and management stations.
Order number **MVS-FENC-AES**

Represented by:

Americas:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
security.sales@us.bosch.com
www.boschsecurity.us

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5617 BA Eindhoven, The Netherlands
Phone: + 31 40 2577 284
Fax: +31 40 2577 330
emea.securitysystems@bosch.com
www.boschsecurity.com

Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia

China:
Bosch (Shanghai) Security Systems Ltd.
201 Building, No. 333 Fuquan Road North IBP
Changning District, Shanghai
200335 China
Phone +86 21 22181111
Fax: +86 21 22182398
www.boschsecurity.com.cn

America Latina:
Robert Bosch Ltda Security Systems Division
Via Anhanguera, Km 98
CEP 13065-900
Campinas, Sao Paulo, Brazil
Phone: +55 19 2103 2860
Fax: +55 19 2103 2862
latam.boschsecurity@bosch.com
www.boschsecurity.com

© Bosch Security Systems 2013 | Data subject to change without notice
11162146955 | en, V5, 13. Dec 2013